

THAT WHICH IS CLAIMED IS:

1. A solid state image sensor comprising an array of pixels and a corresponding array of microlenses disposed in front of said array of pixels, in which the positions of said microlenses relative to their corresponding pixels vary according to the distances of the pixels from a central optical axis of the image sensor, so as to substantially eliminate vignetting of light collected by the microlenses, wherein said array of microlenses is divided into blocks, each of said blocks comprising a plurality of microlenses, and wherein, within a particular block of microlenses, the positions of said microlenses relative to their corresponding pixels are varied by an equal amount.

2. A solid state image sensor as claimed in claim 1, wherein the microlenses within each of said blocks are substantially equally spaced apart by a first distance and wherein adjacent blocks of microlenses are spaced apart by a second distance which is less than said first distance.

3. A solid state image sensor as claimed in claim 1, wherein the microlenses are substantially equally spaced throughout said array of microlenses and wherein selected microlenses at the edges of said blocks are smaller in at least one direction than the remainder of the microlenses of said blocks.

4. A solid state image sensor as claimed in any one of claims 1 to 3, wherein said blocks are substantially rectangular.

5 5. A solid state image sensor as claimed in any one of claims 1 to 3, wherein said blocks have irregular edges configured such that said blocks are tessellated to form a substantially continuous array of microlenses.

6. A solid state image sensor comprising an array of pixels, said array of pixels having a first aspect ratio and each of said pixels including a light-sensitive area having a second aspect ratio,
5 wherein said first aspect ratio is substantially equal to said second aspect ratio.

7. A solid state image sensor as claimed in claim 6, further including a corresponding array of microlenses disposed in front of said array of pixels.

8. A solid state image sensor as claimed in any one of claims 1 to 5 in combination with claim 6 or claim 7.

9. An imaging system including a solid state image sensor as claimed in any one of claims 1 to 8.

10. A camera including a solid state image sensor as claimed in any one of claims 1 to 8.